

REMARKS/ARGUMENTS

The Office Action dated August 20, 2009 and the references cited therein have been carefully considered. In response to the Office Action, Applicant has amended Claims 1, 3 and 7, and added new Claim 20 which, when considered with the remarks set forth below, are deemed to place the case with Claims 1-13 and 20 in condition for allowance.

Claim Rejections 35 USC §112

In the Office Action, Claims 1-13 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner has set forth each specific ground for rejection in the Office Action.

In response, Applicant has amended Claims 1, 3 and 7 to address each ground for rejection. Accordingly, it is believed that the §112 rejection to the claims has been overcome.

Claim Rejections 35 USC §103

Also in the Office Action, Claims 1-6 and 10-12 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,905,740 to Lovejoy et al. in view of Japanese Patent No. JP 57-115330 to Kumazaki, and Claims 1-9 and 11-13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,433,292 to McDonald in view of the Kumazaki patent. The Examiner notes that the Lovejoy and the McDonald patents fail to teach a slidable wall part that is movable within the mold cavity when the mold is in a closed position. However, the Examiner cites the Kumazaki patent as teaching a mold having movable mold parts that move when the mold is closed.

Claim 1

Applicant respectfully traverses the rejection of Claim 1. It is respectfully submitted that none of the cited prior art references, taken alone or combined, teaches or suggests a slidable wall part movable within a closed mold cavity having the features set forth in Claim 1.

In rejecting Claim 1, the Examiner states that it would have been obvious for one of ordinary skill in the art to combine the teachings of Lovejoy with the teachings of Kumazaki “in order to improve the quality of the obtained product by preventing the formation of the blow holes and the shrinkage holes in the solidified plastic part.” However, the method disclosed in the Lovejoy patent clearly does not have the problem of “formation of the blow holes and the shrinkage holes in the solidified plastic part.” If such blow holes were in fact formed, the container molded by the apparatus disclosed in the Lovejoy patent would not be a suitable liquid-tight container having a closed bottom, (i.e., dishwasher tub) as mentioned in column 2, line 33 of the Lovejoy patent. Thus, the mold disclosed in the Lovejoy patent would not be suited for its intended purpose since dishwasher tubs never have holes in the plastic walls. Therefore, there is absolutely no suggestion in the Lovejoy patent of the problems associated with hole formation.

Secondly, the Lovejoy patent only discloses a mold, wherein it is essential that the mold parts are stationary during the process for forming undercuts. As set forth in column 6 of the Lovejoy patent, “Once injection of the thermoplastic material has been completed and the molded article has solidified, the piston 40 of the hydraulic control apparatus 41 is retracted to open the mold.” Therefore, a person of ordinary skill in the art would not think of applying wall movement to the mold disclosed in the Lovejoy patent after the mold is closed, when following the teachings of Lovejoy.

Thirdly, the Kumazaki patent relates to the forming of thick products, contrary to the present invention, and contrary to the teachings of the Lovejoy patent. As a result, there is simply no way to technically combine the molds disclosed in the Lovejoy and Kumazaki patents. In particular, there is no space available in the Lovejoy-configuration for receiving further movable components as disclosed in the Kamazaki patent.

Moreover, the Kumazaki patent teaches that the mold cavity must be completely filled, after which pressure is applied to the plastic mass for shrinking the cavity “according to the volume contraction” during the curing of the thick plastic mass. Again, volume contraction of plastic does not occur in the method according to the Lovejoy patent, since thin container walls will not contract during curing. Therefore, there is absolutely no motivation to combine the teachings of the Kumazaki and Lovejoy patents.

Similarly, it would be just as improbable, if not impossible, to combine the teachings of the McDonald and Kumazaki patents. Specifically, the McDonald patent relates to a method for producing complex metal products, whereas the Kumazaki patent relates to plastic molding. Again, according to the McDonald patent it is essential that the mold parts are “locked” during the process. (See col. 1, lines 45-46 and 67-70 and col. 4, beginning at line 30.) The die sections “must be held in place in a closed position against extreme high molten metal injection forces, sometimes up to 500,000 to 1,000,000 pounds.” (Col. 1.) Thus, a starting point in the McDonald patent is that the metal product (such as an accurately dimensioned motor block) does not shrink during cooling down. Since the die sections “must” be held in place, the skilled person would not apply any moving (unlocked) wall parts when the mold is in its closed position.

The whole concept or object of the McDonald patent is improving the locking of the die parts. (See col. 1.) Thus, the McDonald and Kumazaki patent have completely divergent teachings that would not be combined. Furthermore, nowhere in the McDonald patent is there any suggestion that its method would lead to formation of the blow holes and the shrinkage holes in the metal. Clearly, the finished motor block produced by the mold disclosed in the McDonald patent will not have any such holes.

Therefore, for all of the foregoing reasons, it is respectfully submitted that Claim 1 and the claims that depend therefrom patentably distinguish over the prior art.

Amended Claim 7

Applicant has amended Claim 7 to clarify the structural arrangement of the central first core part, the second core part and the movable wall part. Specifically, Claim 7 has been amended to clearly define a second core part disposed at a distance from a central first core part when the mold is in a closed position. Claim 7 has been further amended to define the second core part as having a first side and a second side, wherein the first side faces the central first core part and the second side faces away from the central first core part in an opposite direction than the first side. Claim 7 has been still further amended to define the movable wall part as facing the second side of the second core part facing away from the central first core part. It is respectfully submitted that none of the cited prior art references,

taken alone or combined, discloses an arrangement of a central first core part, a second core part and a movable wall part as defined in amended Claim 7.

In rejecting Claim 7, the Examiner states that the McDonald patent discloses a central core part (21) and movable wall parts (42 and 44) disposed on opposite sides of a second core part (50). However, as clearly shown in the drawings of the McDonald patent, the central core part (21) and the movable wall parts (42 and 44) are not disposed on opposite sides of the second core part (50). Instead, these parts meet at a corner of the core part (50).

As discussed above, Applicant has amended Claim 7 to further clarify this distinction. Specifically, Claim 7 has been amended to define the second core part as having a first side and a second side, wherein the first side faces the central first core part and the second side faces the movable wall part in an opposite direction than the first side. Comparing these limitations with the mold components disclosed in the McDonald patent, it is clear that the central core part (21) and the movable wall part (42, 44) do not face opposite sides of the second core part (50), as defined in amended Claim 7. Instead, the central core part (21) and the movable wall part (42, 44) disclosed in the McDonald patent face adjacent connecting sides of the second core part (50).

It is also noted that the second core part (50) of the McDonald mold is not disposed at a distance from the central core part (21) when the mold is in a closed position, as defined in amended Claim 7. Instead, as clearly shown in Figure 3 of the McDonald patent, the second core part (50) makes contact with the central core part (21).

Accordingly, for all of the foregoing reasons, it is respectfully submitted that amended Claim 7 patentably distinguishes over the prior art.

New Claim 20

Applicant has also added new Claim 20. New Claim 20 depends from Claim 7 and further defines the central first core part, the second core part and the moveable wall part as defining substantially parallel mold cavities therebetween. It is respectfully submitted that none of the cited prior art references, taken alone or combined, discloses a central first core part, a second core part and a moveable wall part that defines substantially parallel mold cavities therebetween, as defined in new Claim 20.

Conclusion

In view of the foregoing amendment and remarks, favorable consideration and allowance of the application with Claims 1-13 and 20 are respectfully solicited. If the Examiner believes that a telephone interview would assist in moving the application toward allowance, he is respectfully invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

/steven t zuschlag/

Steven T. Zuschlag
Registration No.: 43,309
Attorney for Applicant

HOFFMANN & BARON, LLP
6900 Jericho Turnpike
Syosset, New York 11791
(516) 822-3550
STZ/mf

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